

**REMARKS:**

Claims 1-18 are presented for consideration.

The undersigned thanks the Examiner for the telephone interview of December 5, 2007 during which the amendment to claim 1 requiring the material piece (10) to be unperforated and the Netherlands Patent NL8,204,847 (NL'847) were discussed. A similar amendment has been made to claim 18 as well. Amendments have also been made to some of the other claims to improved their form.

Although no agreement was reached the Examiner is thanked for his time and consideration.

As discussed during the interview, the intention of adding the requirement that the material piece (10) is unperforated is to better distinguish the claimed invention over NL'847 which teaches using an open wire mesh (see Fig. 3 of the reference) and spraying material on the inside of the open mesh in the pipe, not to seal any holes in the pipe which clearly would not be seal by an open mesh, but rather the reinforce the pipe.

Support for the unperforated nature of the material piece (10) is found in the original Figs. 2 and 3 and in the specification as originally filed which calls for the material piece to form a wall over a hole of considerable size, as shown for example in Fig. 6.

Turning to the Final Action, claims 1-10 and 18 are rejected as being obvious under 35 U.S.C. 103 from a combination of the NL'847, in view of U.S. Patent 5,186,215 to Gilleland.

NL'847 is not at all concerned with reconditioning of pipes having one or more substantial hole through the wall thereof, but teaches lining the internal walls of pipes. In the method according to NL'847 a layer of any liquid or floating material is firstly sprayed

on the internal wall of the pipe, and a mesh piece 16 is then applied thereon. This mesh piece is designed as a permeable net arranged for reinforcing the pipe wall. An additional layer is then sprayed onto the mesh piece 16 for filling out the space between the meshes of the material piece 16 and for covering this piece. If a hole were present in the pipe, as is contemplated by the claimed invention, the spray of NL'847 would pass through the mesh 16 and out through the hole with no sealing function being achieved at all.

Gilleland teaches using a rolled, apparently unperforated sealing material 12 that has sealing and locking mating edged 15 and 17 that lock and seal with each other and against a sealing gasket 30 that is outside the roll. See Figs. 4, 5 and 6 fo Gilleland. There is not suggest of spraying a fluid coating material onto an inner surface of the material after it expands in the pipe to be repaired, and this sequence would seem to be counter intuitive.

According to the invention (claim 1, last 3 lines):

"the unperforated material piece forming the pipe piece has no ability to seal said hole alone, but it forms in the subsequent spraying of coating material an auxiliary wall over the hole retaining the material sprayed within the pipe."

These limitations a mirrored in the single apparatus claim 18.

The person of ordinary skill in this art would have no reason to substitute the mesh of NL'847 with the tube 12 of Gilleland, and to subsequently spray coating material inside the tube 12. Gilleland's tube 12 already provides all the sealing needed as taught by Gilleland, and the subsequent spray of fluid according to NL'847 is meant to uniformly

permeate and fix the mesh 16 of NL'847 to the inner surface of the pipe to be reinforced.

To discover that the unrolling of unperforated material into the inner surface of a pipe with one or more holes, and the subsequent spraying of fluid inside the unrolled material to fix it and form a sealed fresh pipe wall, there, in addition, the unrolled material by itself is not capable of forming the seal, is believed to be unobvious and patentable over the prior art.

The dependent claims distinguish the invention even further from the cited combination of references, so that claims 1-10 and 18 are believed to be patentable over the combination of NL'847 and Gilleland.

The Examiner has also rejected claim 11 as being obvious from a combination of NL'847 taken in view of Gilleland and the Swedish reference to Kohichiro (referred to here as SE'950). This combination is also believed insufficient to render claim 11 obvious, since two of the references are actually inconsistent with each other. SE'950 teaches the spacing away of the edges of the slit pipe piece, whereas Gilleland requires that the edges closely mesh and are in fact adhesively connected to each other as shown in Fig. 6 of the reference.

The Examiner has also rejected claim 12 as obvious from a combination of NL'847, Gilleland, SE'950 and a further Swedish reference to Jansson, which is referred here as SE'357. In claim 12, breakable ribbons are provided specifically as the means for holding the pipe piece together and SE'357 does disclose a band. It is not seen where the band is breakable or should be broken, nor does the addition of this reference address the conflicts among the three primary references.

The Examiner has also rejected claims 13-17 as obvious from a combination of NL'847, Gilleland, SE'950, taken further in view of the further Swedish reference SE'663 to Edstrom. Edstrom appears to disclose the prior art of Fig. 1 already disclosed by the present application and, in fact, uses no inner split tube piece which exists at all, let alone one which is held by a means for holding the piece together, those means being ruptured by sprung internal coated material.

Although all of the claims are thus believed to be in condition for allowance, the following additional comments are offered in an attempt to clearly explain why this application should be allowed.

The material piece in NL'847 is a permeable mesh or net arranged for reinforcing a pipe wall. It is not at all used for a sealing purpose and due to the fact that it is a net, i.e. it is itself primarily constituted by holes, it acts totally different than the material piece used in the method according to the present invention and would be totally useless for the purpose of that claimed unperforated material piece.

The following features of claim 1 are not present in NL'847:

- one or more substantial holes through the pipe wall;
- placing the mesh at the location for a substantial hole;
- for covering the hole;
- a holding of the mesh being broken so that the pipe piece increases the diameter thereof while releasing potential energy and will under pretension bear against the inner wall of the pipe;
- the material piece forms in the subsequent spraying of coating material an auxiliary

wall over the hole;

- the auxiliary wall over the hole retains the material sprayed within the pipe.

Thus, the method of NL'847 is totally different and used for a totally different purpose than the method according to the invention. Use of the material piece according to Gilleland in the method of NL'847 would not render the present invention obvious since the method of NL'847 is totally different, i.e. it is a method for reinforcement of pipes and not for sealing pipes having holes through the pipe wall.

The hole(s) to be covered in the method according to the present invention clearly cannot be sealed with the net of NL'847 and the difference in purpose and approach between NL'847 and Gilleland would make their combination unobvious and non-intuitive. The mesh of NL'847 simply cannot seal a hole in a pipe.

The unperforated material piece is used in the method according to the invention to act as an auxiliary wall over the hole in the spraying of coating material for retaining the material sprayed within the pipe. This is the task of the material piece, in which the retaining feature is essential. NL'847 fails to show anything coming close to this or even mentioning the object to be obtained by a method according to the present invention and then of course not how such an object may be obtained.

Gilleland cannot help since he does not contemplate subsequent spraying and has no purpose for such spraying.

By this amendment thus, the application and claims are believed to be in condition for allowance and favorable action is respectfully requested.

Respectfully submitted,

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